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Labour productivity, economic growth and global competitiveness in post-crisis period

Astra Auzina-Emsina[a,]*

[a]*Riga Technical University, Latvia, astra.auzina-emsina@rtu.lv*

Abstract

Labour productivity and economic growth are key factors to maintain and improve the competiveness of nations in the global market. The paper is devoted to the analysis of recent trends of labour productivity and economic growth in post-crisis period in comparison with the trends in pre-crisis and crisis periods. The paper analyzes the impact of changes in labour productivity and its effect on the nation's global competitiveness. The research focuses on the European Union countries that experienced the most severe crisis and afterwards the most rapid recovery in post-crisis period (as Latvia, Lithuania, and Estonia). The research findings argue that there are weak or no relations between productivity increase and economic growth in pre-crisis period and the first phase of post-crisis period; however, the increase of productivity during the crisis is a significant driver of the economy after a period of time.

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Keywords: Labour productivity; economic growth; global competitiveness; crisis, post-crisis.

1. Introduction

Labour productivity and economic growth are key factors in any economy. It is related to the fact that labour productivity depends on the availability and quality of labour resources and applied technologies. As a result, labour productivity heavily influences the production process and production costs. And production costs affect the competiveness of nations in the global market.

* Corresponding author. Tel.: +37126179993.
E-mail address: astra.auzina-emsina@rtu.lv

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It must be admitted that the issues and problems related to the labour productivity in various eras of economic cycle (for example, in the post-crisis period) are relatively uncovered topic in economic literature. Most of studies devoted to post-crisis effects are devoted to the Asian economic crisis (as Rhee & Pyo (2010) on Korea's crisis) or the Russian crisis (as Ahrend (2006)). It is most noticeable when specific countries are being investigated regarding the more recent economic crisis. The review of recent literature on the researches devoted to the productivity in Latvia, Lithuania, and Estonia shows that many researches investigating the relation between innovations and productivity (as Masso & Vahter (2012) examined the service sector in Estonia and the authors found that the association between technological innovation and productivity is stronger in the less knowledge-intensive service sector), foreign direct investment and productivity (as Degutis & Tvaronavičiene (2006), and Snieska & Simkunaite (2009)). At present, only few studies are devoted to competitiveness in the post-crisis period in Latvia, Lithuania, and Estonia, and the majority address the issues related to financial market and currency exchange rates (as Darvas (2011)).

In the past decade or even before the issues related to the competitiveness of a certain industry, region and nation are examined in numerous studies. Global Competitiveness Index (GCI), elaborated by World Economic Forum (WEF), is widely applied to evaluate and rank countries depending on the level of global competitiveness. Some authors are critical about the overestimated importance of the concept of global and national competitiveness. Lall (2001) raised a question whether national competitiveness is a real problem or "dangerous obsession" and this question is still open.

In recent years, the studies and researches devoted to the critical analysis of GCI, including optional improvements (as Xia, Liang, Zhang, & Wu (2012)), upgraded methodologies and replacement indicators (as Podobnik, Horvatic, Kenett, & Stanley (2012)) are more numerous than those studies that recognize GCI as a general indicator to estimate and compare nations regarding the global competitiveness. Xia et al. (2012) argue that WEF should refine GCI methodology including national culture as an additional factor so that GCI can become a much better predictor of economic growth, the authors admit that GCI can only be meaningful when it is better at predicting economic growth than other variables, otherwise other well established indices should be used to make predictions about national economies. Podobnik et al. (2012) examined how the level of competitiveness affects the dynamics of a country's wealth during a recession and the authors developed a new measure, which is called a relative competitiveness, to evaluate an economy's competitiveness relative to its GDP.

At the same time some studies on national competitiveness exclude GCI, but macroeconomic indicators as real GDP growth rate, GDP per capita, unit labour costs, inflation etc. and relations between these indicators are examined in order to evaluate and estimate the national competitiveness. For example, Fagerberg & Srholec (2007) examined several relations such as the relations between GDP per capita in PPPs and real GDP growth rate, unit labour costs and real GDP growth rate etc. in order to detect and analyse competitiveness in a certain time period.

On the basis of the literature review, this approach has been selected as the most appropriate and effective for the study instead of application of the index as it cannot be used in time-series correlation analysis. At the same time, the GCI data are used in general analysis to represent global trends.

The question whether there is a strong and stable relation between labour productivity and economic growth and, as a result, national competitiveness, is unclear. Hence, the goal of the research is to analyse the recent trends of labour productivity and economic growth in post-crisis period in comparison with the trends in pre-crisis and crisis periods, taking into account the impact of labour productivity increase on national competitiveness in the global market.

For this purpose, the countries that are most appropriate for this study were selected, exact time periods or stages of economic cycles for the selected countries (pre-crisis, crisis, and post-crisis) were defined, the trends of labour productivity and economic growth in various stages of economic cycle, as well as the trends of national competitiveness were analyzed; also the impact factors were determined. The research results were concluded by elaborating recommendations.

The results of the analysis imply that the possible existence of strong and direct relation between productivity and economic growth is overestimated. The results show that the existence of the lagged (transition) effect should be taken into consideration when labour productivity and economic growth relations are analysed.

2. Method

As quantitative and qualitative data analyses methods, as well as analytic method have been used in the research, several indicators have been selected and are used as an analytic tool to evaluate the dynamics and impact in the research period. The following indicators have been used in the study: 1) labour productivity per person employed (EU27=100); 2) labour productivity per hour worked (EU27=100); 3) labour productivity (% change in comparison with the previous period); 4) real GDP growth rate (% change in comparison with the previous period); 5) Global Competitiveness Index (rank of a country).

The research is focused to examine the effects in the post crisis period, however, the pre-crisis and crisis period are defined and used for comparisons and identifying shifts and influences. The research covers the time period from 2004 to 2012 that can be subdivided into three periods – 2004-2008 (pre-crisis), 2008-2010 (crisis) and starting from 2011 (post-crisis). It should be stressed that "pre-crisis" period is defined only for research purposes (to compare pre and post-crises periods) and it is not an official definition of this time period.

In the research the major data source is the Eurostat data base. Eurostat base is used as a data source of productivity and economic growth indicators. As the Eurostat data base indicators are published according to a unified methodology for all countries examined in the research, all the data are comparable (with other countries included in the data base; and with previous periods). The data source for GCI is Global Competitiveness Reports from 2006 till 2013 elaborated by WEF (2013).

The research is focused on Latvia, Lithuania, and Estonia as these European Union countries experienced the fastest economic growth in the pre-crisis period, the most severe economic decline in the crisis period and the fastest economic recovery in the post-crisis period. In addition, the statistics on the average level of the EU countries is applied for drawing comparisons or making analysis.

3. Results

The European Union, in general, and the majority of the EU member states are very cautious about the regional and national competitiveness in the global market. Any signal of economic slowdown is taken seriously and many steps are taken to recover and revive the economy. Economic growth is a complex process and it is determined by numerous domestic and global factors. In 2012 sixteen EU countries had smaller real economies in comparison with 2007 (estimated by real GDP levels). Figure 1 shows that the average level of the EU still lags behind (99% of the volume of real economy in 2007). The positive trend is that for the majority of countries the crisis is over and a gradual or sharp recovery takes place. Latvia, Lithuania and Estonia experienced the largest recessions within the EU and hence these countries are selected for more detailed study. Latvia's economy fell by 21% in 2008-2010, Lithuania's economy – by 12% in 2008-2009, Estonia's economy – by 18% in 2008-2009. The data argue that neither those countries nor the EU economy in general had gained back the economic size and power of 2007. However, it should be stressed that some EU countries that are still in crisis as Greece and the new member state, Croatia, are not analysed in this research.

Fig. 1. Real GDP in 2004-2012 (2007=100)

The analysis of labour productivity dynamics shows a significant improvement in labour productivity if compared with the average productivity in the EU. It argues that economic crisis heavily influenced productivity and technologies applied that resulted in significant improvements and hence improved competitiveness. The data show that in the fast economic growth period (2004-2007) the labour productivity in Latvia was 37-40% of the average level of the EU productivity, in Lithuania - 49-53%, but in Estonia – 49-56%. The analysis of relation between productivity per hour and real GDP growth rate in the three research periods argues that relation between the indicators is unstable. The results argue that in the pre-crisis period the level of productivity had a small or no effect on the economic growth rate (see Fig.2), during the crisis productivity increased while the economies declined, but in the post-crisis period the productivity is higher than previously and it results in a stable economic growth with some time lag.

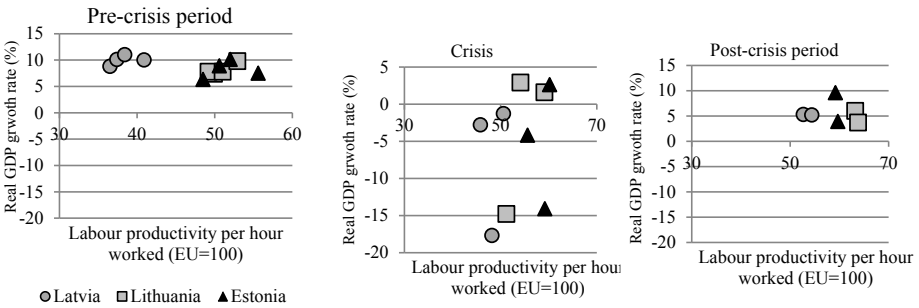

Fig. 2. Labour productivity and real GDP growth rate in pre-crisis, crisis, and post-crisis period

The research results claim that economic recovery strongly depends on productivity increase during the crisis and after a period of time (transition period) it results in economic growth. If the level of productivity stagnates or declines during the crisis, it results in a longer and deeper crisis and slower recovery.

Countries strive to improve their global competitiveness. One of the most common ways to measure global competitiveness is using GCI and hence countries aim to gain a higher rank. According to the GCI methodology ranking, the higher the rank the better for the national economy (for domestic companies, foreign investors etc.). However, as the number of countries included in GCI reports gradually increases from year to year (from 122 countries in the report of 2006-2007 to 148 countries in the report of 2013-2014), it should be stressed that a simplified general analysis of a country's rank over time might give biased results. Hence, it is important to analyse not only a rank, but also take into account the total number of countries covered in the report. This might be called a relative global competitiveness; it should be underlined that it is a completely different approach compared to the relative competitiveness of Podobnik et al. (2012).

General analysis of GCI of Latvia, Lithuania, and Estonia shows that the global competitiveness in the post-crisis period is lower than it was in the pre-crisis period. For example, Latvia holds the 52nd place in 2013 in comparison with the 44th in 2006; Lithuania – the48th and the 39th, and Estonia – the32nd and the 26th respectively. However, we can argue that Latvia, Lithuania, and Estonia have gained back their relative global competitiveness as additional 26 countries are included in the ranking. In the post-crisis period, Estonia is again amid the top fifth of the countries with the highest global competitiveness, Lithuania and Latvia – amid the top third of the countries with the highest global competitiveness. Despite the fact that Latvia, Lithuania and Estonia had significantly lost their global competitiveness due to the severe economic recession, the countries have recovered and the trend shows that national competitiveness grows. The findings indicate that one of the main factors that ensures constant and stable improvement in the post-crisis period is the growth of labour productivity that results in stable economic growth.

4. Discussion

The goal of the research was to analyse the recent trends of labour productivity and economic growth in the post-crisis period in comparison with the trends in pre-crisis and crisis periods in Latvia, Lithuania and Estonia. The results argue that the relation between labour productivity and economic growth significantly differs and it is not a constant or stable relation over time. The findings argue that there are weak or no relations between labour productivity and economic growth in the pre-crisis period and the first phase of post-crisis period. However, the increase of labour productivity during the crisis is a significant driver of the economy after a period of time. The results of global competitiveness index analysis suggest that due to labour productivity growth and positive impact of other factors the countries have gained back global competitiveness that was lost during the crisis. The research findings can serve as an additional valuable resource for policy makers (in Latvia, Lithuania, and Estonia, as well in the EU countries that still are in crisis or just stepped into the post-crisis period) in order to make effective policy decisions and take actions on the basis of relations between the labour productivity and economic growth, as well as taking into account the impact of labour productivity increase in the long-term, especially taking into account the time lag effect.

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